

FIG.1  
Related Art

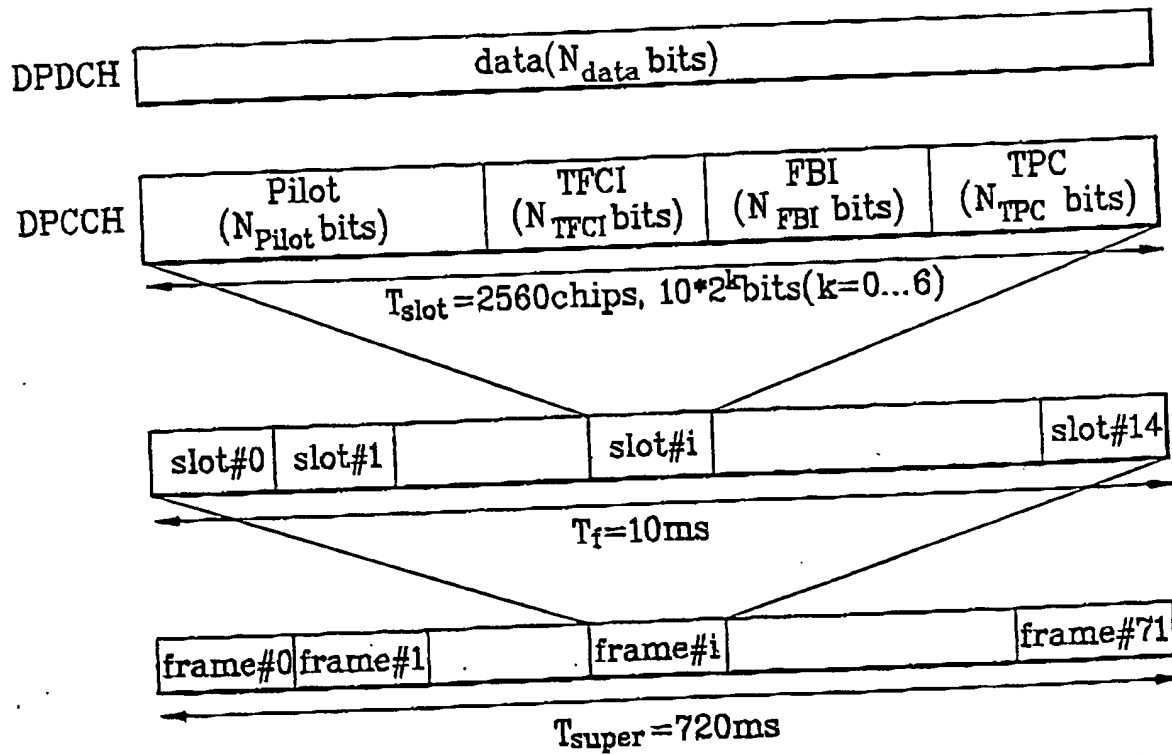


FIG.2  
Related Art

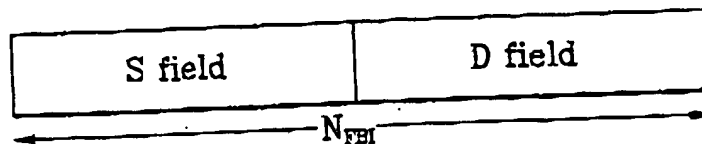


FIG. 3a

Hadarmad codes of 8 bits	Hadarmad codes of 16 bits
$H_{3,0} = 0000\ 0000$	$H_{4,0} = 0000\ 0000\ 0000\ 0000$
	$H_{4,1} = 0101\ 0101\ 0101\ 0101$
$H_{3,1} = 0101\ 0101$	$H_{4,2} = 0011\ 0011\ 0011\ 0011$
	$H_{4,3} = 0110\ 0110\ 0110\ 0110$
$H_{3,2} = 0011\ 0011$	$H_{4,4} = 0000\ 1111\ 0000\ 1111$
	$H_{4,5} = 0101\ 1010\ 0101\ 1010$
$H_{3,3} = 0110\ 0110$	$H_{4,6} = 0011\ 1100\ 0011\ 1100$
	$H_{4,7} = 0110\ 1001\ 0110\ 1001$
$H_{3,4} = 0000\ 1111$	$H_{4,8} = 0000\ 0000\ 1111\ 1111$
	$H_{4,9} = 0101\ 0101\ 1010\ 1010$
$H_{3,5} = 0101\ 0101$	$H_{4,10} = 0011\ 0011\ 1100\ 1100$
	$H_{4,11} = 0110\ 0110\ 1001\ 1001$
$H_{3,6} = 0011\ 1100$	$H_{4,12} = 0000\ 1111\ 1111\ 0000$
	$H_{4,13} = 0101\ 1010\ 1010\ 0101$
$H_{3,7} = 0110\ 1001$	$H_{4,14} = 0011\ 1100\ 1100\ 0011$
	$H_{4,15} = 0110\ 1001\ 1001\ 0110$

FIG.3b

bi-orthogonal codes of 8 bits	bi-orthogonal codes of 16 bits
B <sub>3,0</sub> = 0000 0000	B <sub>4,0</sub> = 0000 0000 0000 0000
B <sub>3,1</sub> = 1111 1111	B <sub>4,1</sub> = 1111 1111 1111 1111
B <sub>3,2</sub> = 0101 0101	B <sub>4,2</sub> = 0101 0101 0101 0101
B <sub>3,3</sub> = 1010 1010	B <sub>4,3</sub> = 1010 1010 1010 1010
B <sub>3,4</sub> = 0011 0011	B <sub>4,4</sub> = 0011 0011 0011 0011
B <sub>3,5</sub> = 1100 1100	B <sub>4,5</sub> = 1100 1100 1100 1100
B <sub>3,6</sub> = 0110 0110	B <sub>4,6</sub> = 0110 0110 0110 0110
B <sub>3,7</sub> = 1001 1001	B <sub>4,7</sub> = 1001 1001 1001 1001
B <sub>3,8</sub> = 0000 1111	B <sub>4,8</sub> = 0000 1111 0000 1111
B <sub>3,9</sub> = 1111 0000	B <sub>4,9</sub> = 1111 0000 1111 0000
B <sub>3,10</sub> = 0101 1010	B <sub>4,10</sub> = 0101 1010 0101 1010
B <sub>3,11</sub> = 1010 0101	B <sub>4,11</sub> = 1010 0101 1010 0101
B <sub>3,12</sub> = 0011 1100	B <sub>4,12</sub> = 0011 1100 0011 1100
B <sub>3,13</sub> = 1100 0011	B <sub>4,13</sub> = 1100 0011 1100 0011
B <sub>3,14</sub> = 0110 1001	B <sub>4,14</sub> = 0110 1001 0110 1001
B <sub>3,15</sub> = 1001 0110	B <sub>4,15</sub> = 1001 0110 1001 0110
	B <sub>4,16</sub> = 0000 0000 1111 1111
	B <sub>4,17</sub> = 1111 1111 0000 0000
	B <sub>4,18</sub> = 0101 0101 1010 1010
	B <sub>4,19</sub> = 1010 1010 0101 0101
	B <sub>4,20</sub> = 0011 0011 1100 1100
	B <sub>4,21</sub> = 1100 1100 0011 0011
	B <sub>4,22</sub> = 0110 0110 1001 1001
	B <sub>4,23</sub> = 1001 1001 0110 0110
	B <sub>4,24</sub> = 0000 1111 1111 0000
	B <sub>4,25</sub> = 1111 0000 0000 1111
	B <sub>4,26</sub> = 0101 1010 1010 0101
	B <sub>4,27</sub> = 1010 0101 0101 1010
	B <sub>4,28</sub> = 0011 1100 1100 0011
	B <sub>4,29</sub> = 1100 0011 0011 1100
	B <sub>4,30</sub> = 0110 1001 1001 0110
	B <sub>4,31</sub> = 1001 0110 0110 1001

FIG. 4A

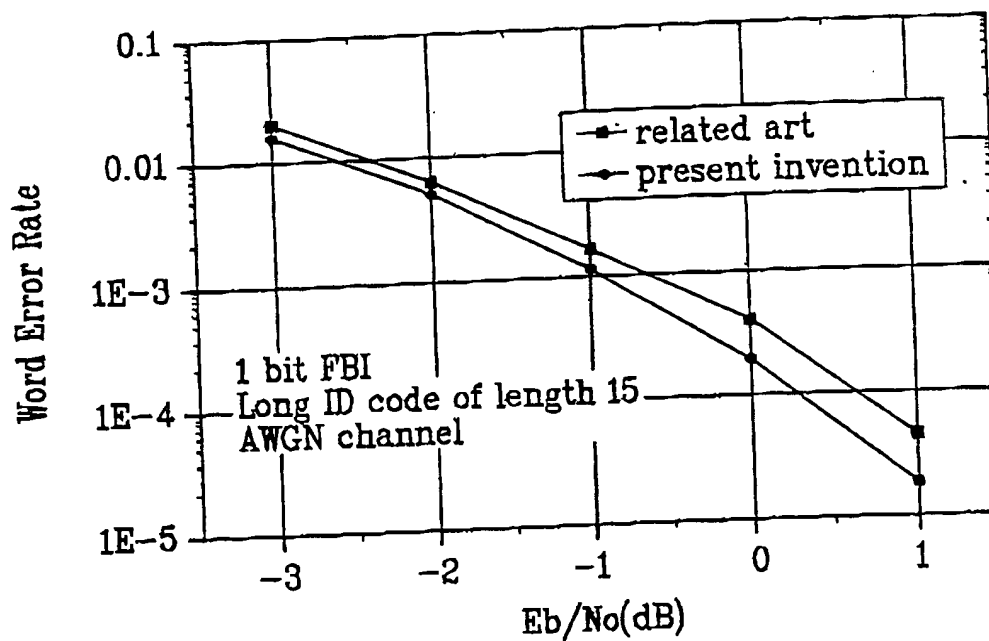


FIG. 4B

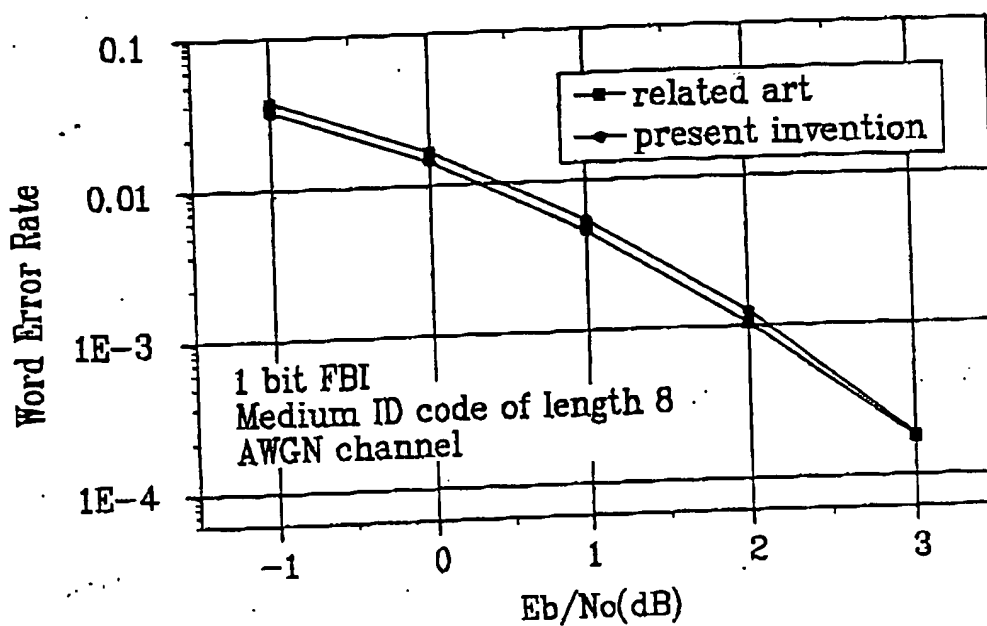


FIG. 4C

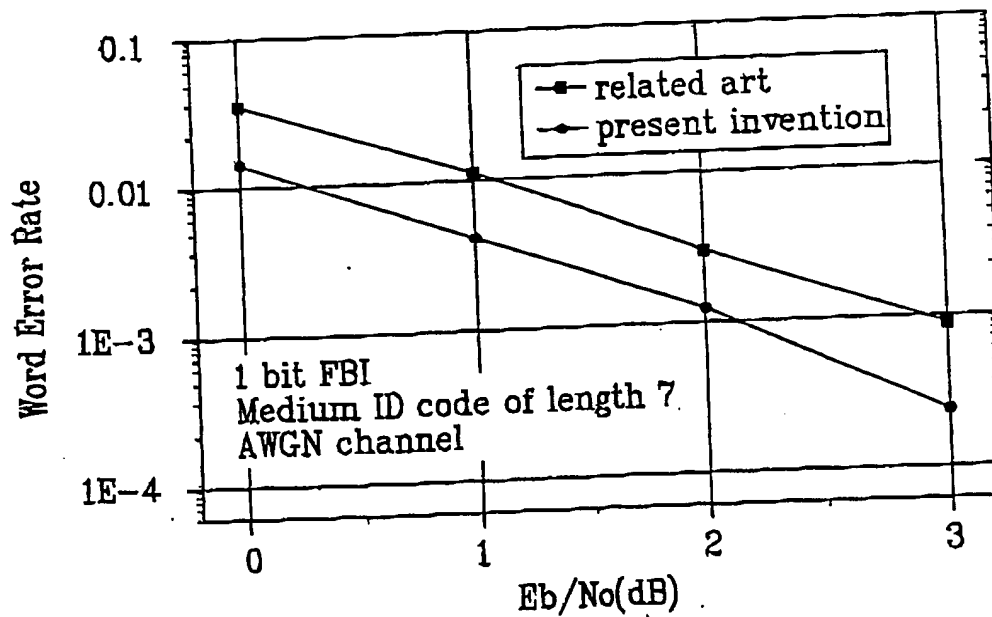


FIG. 4D

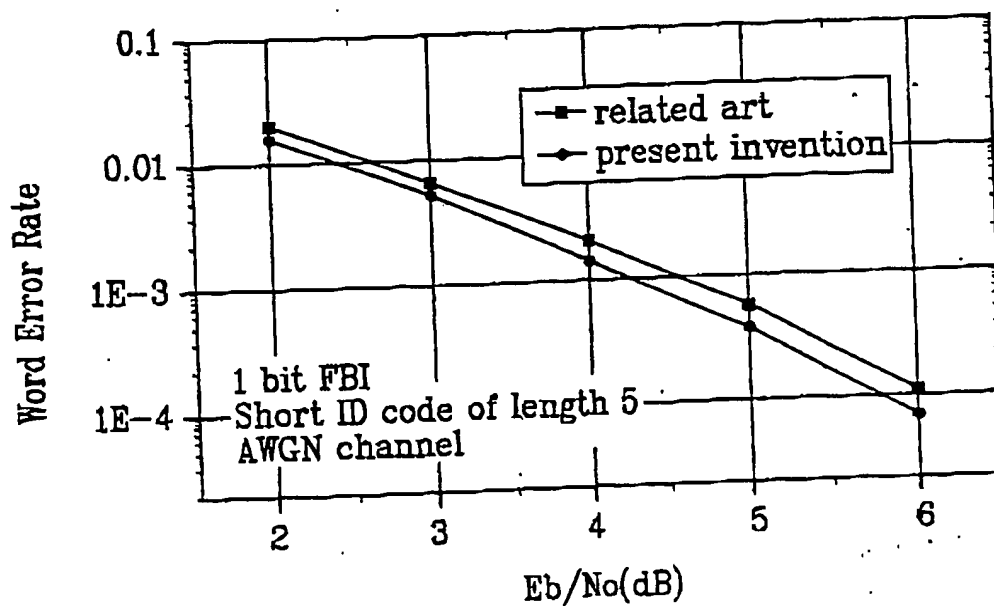


FIG.5A

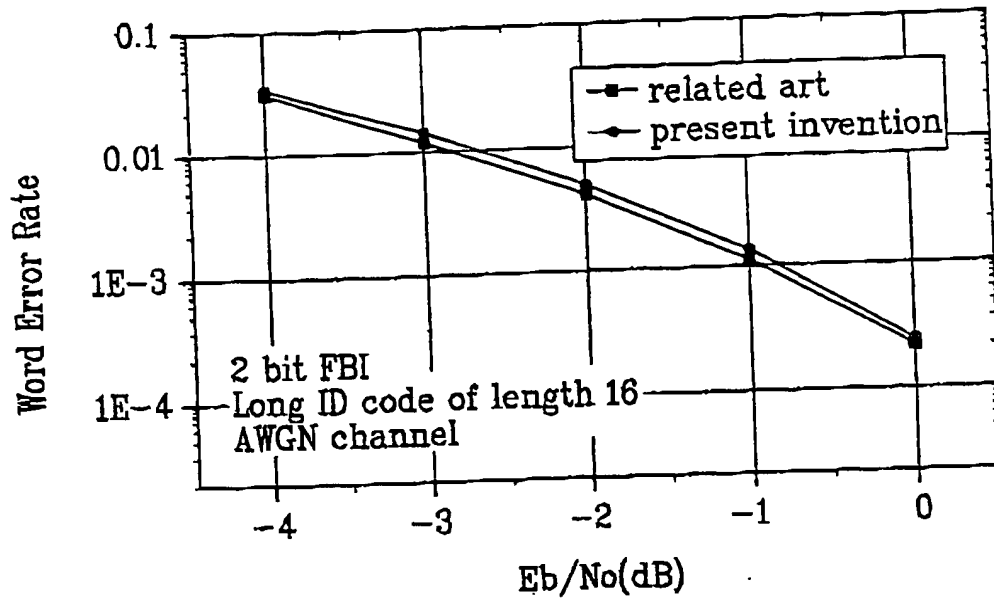


FIG.5B

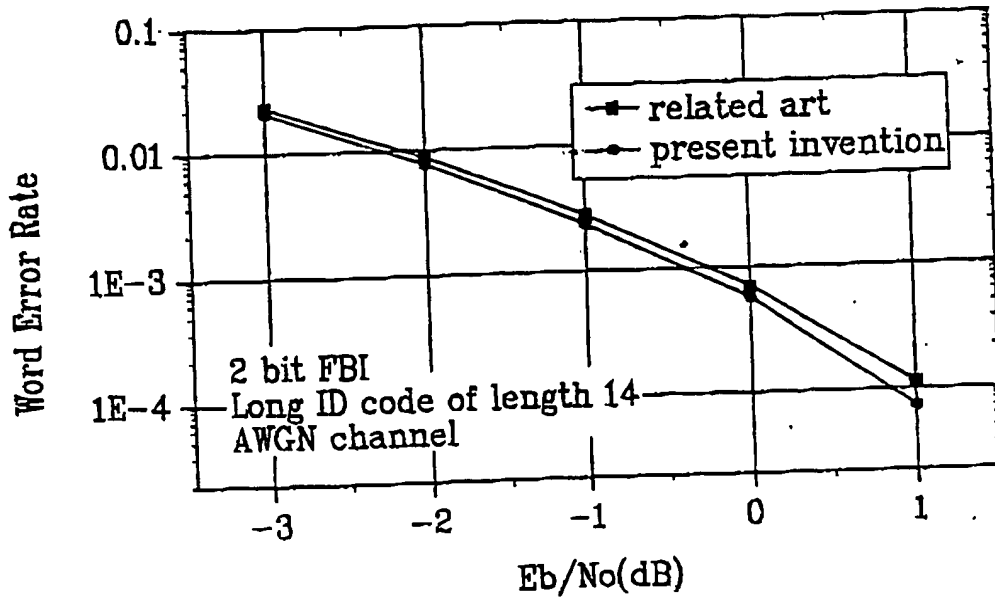


FIG. 5C

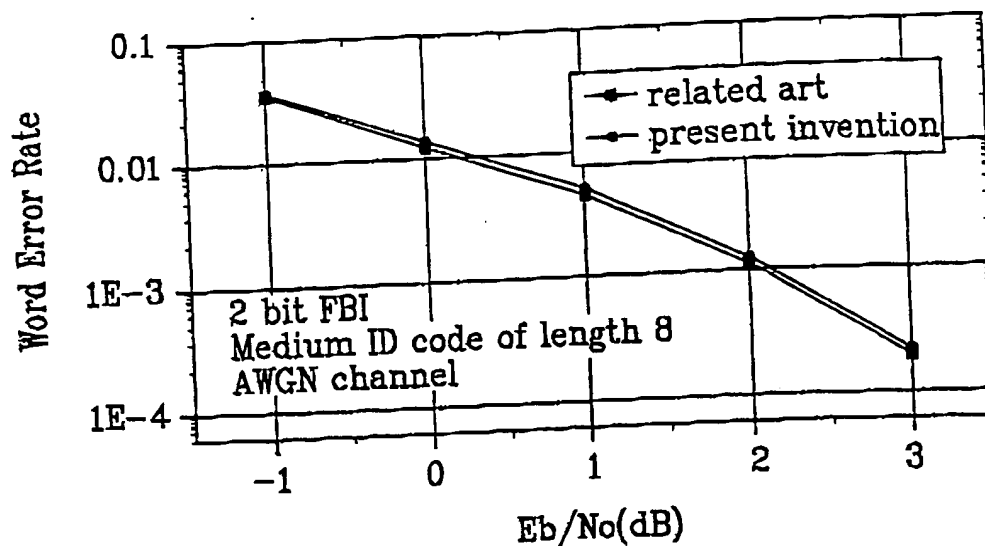


FIG. 5D

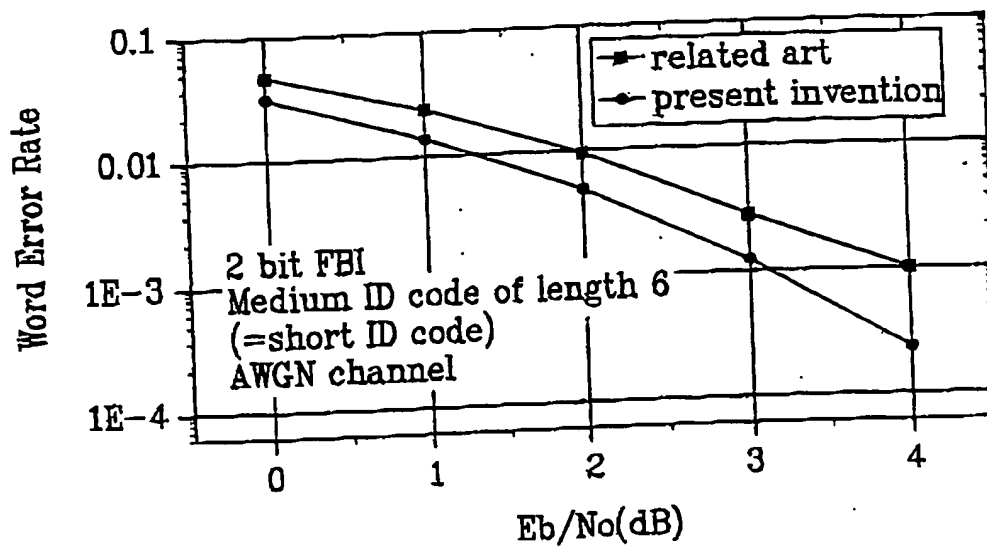


FIG. 6A

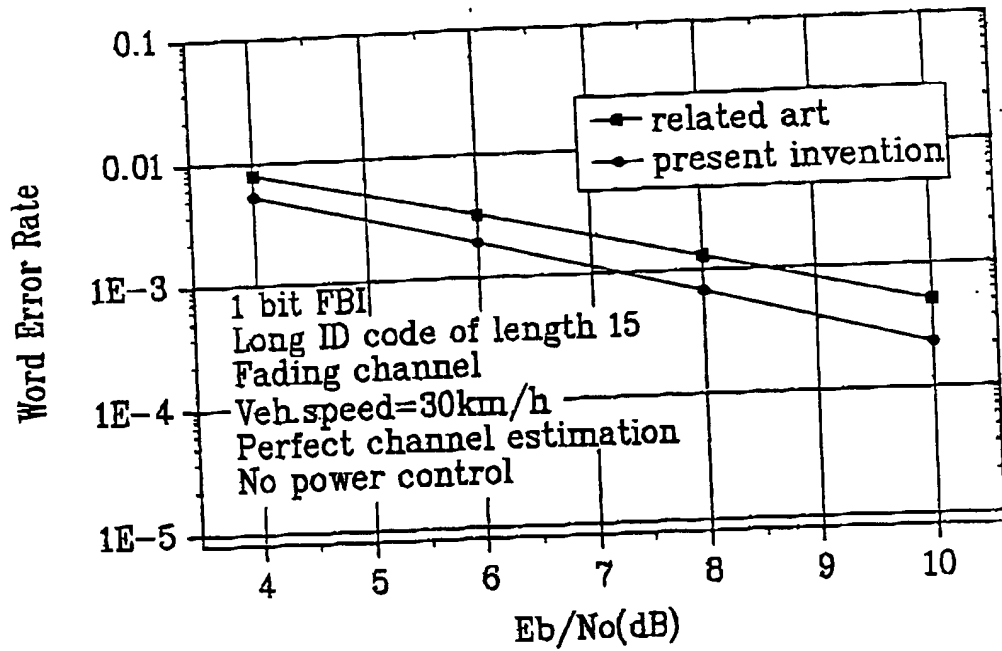
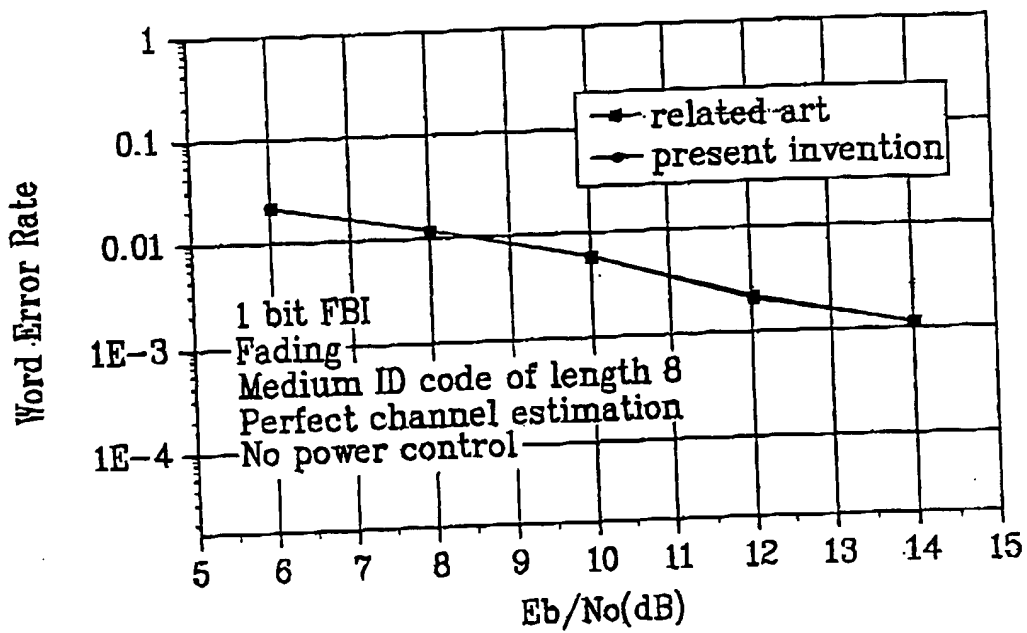


FIG. 6B





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FIG. 6C

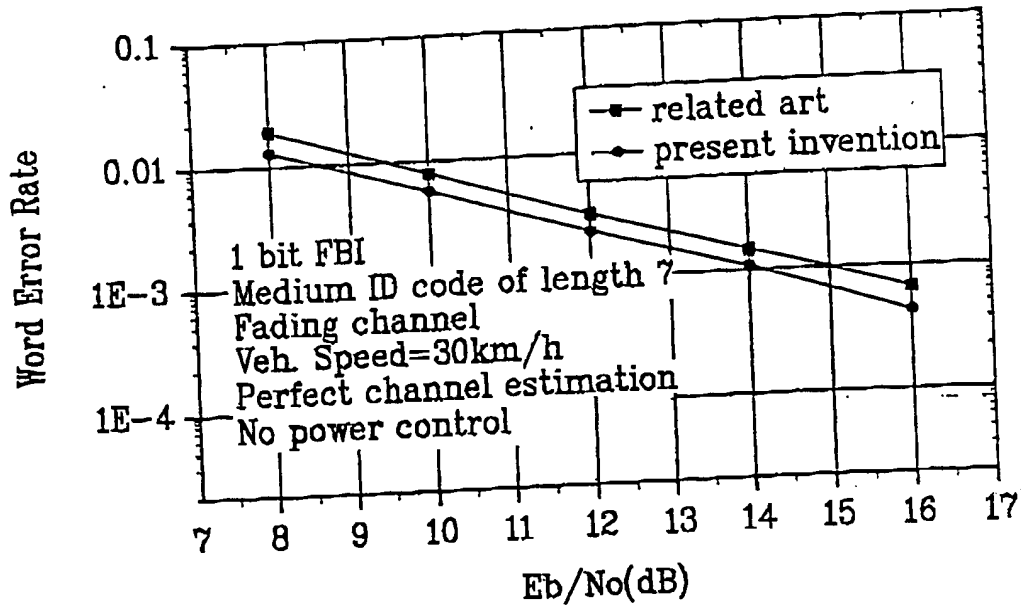


FIG. 6D

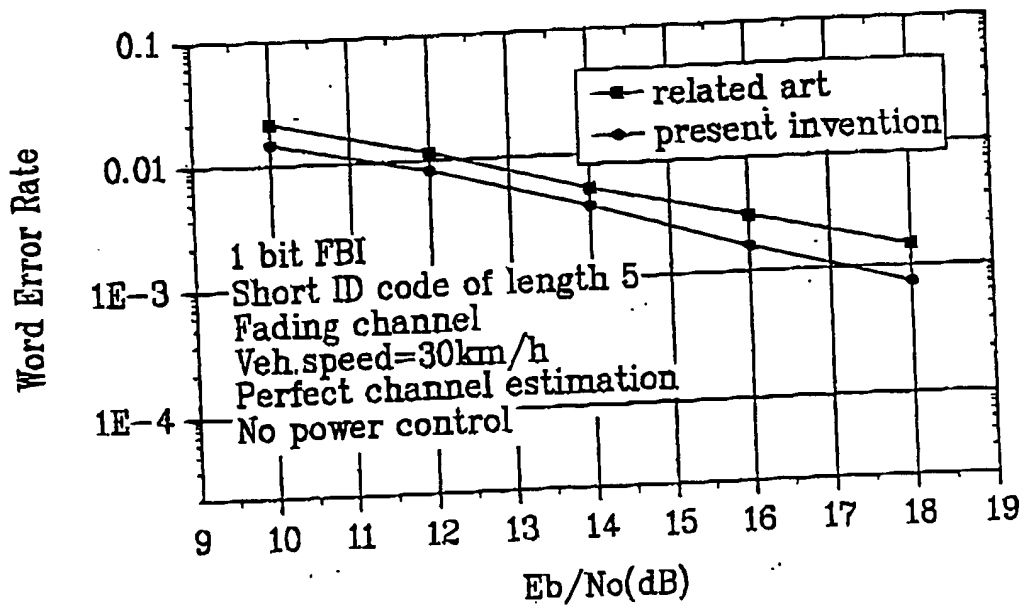


FIG. 7A

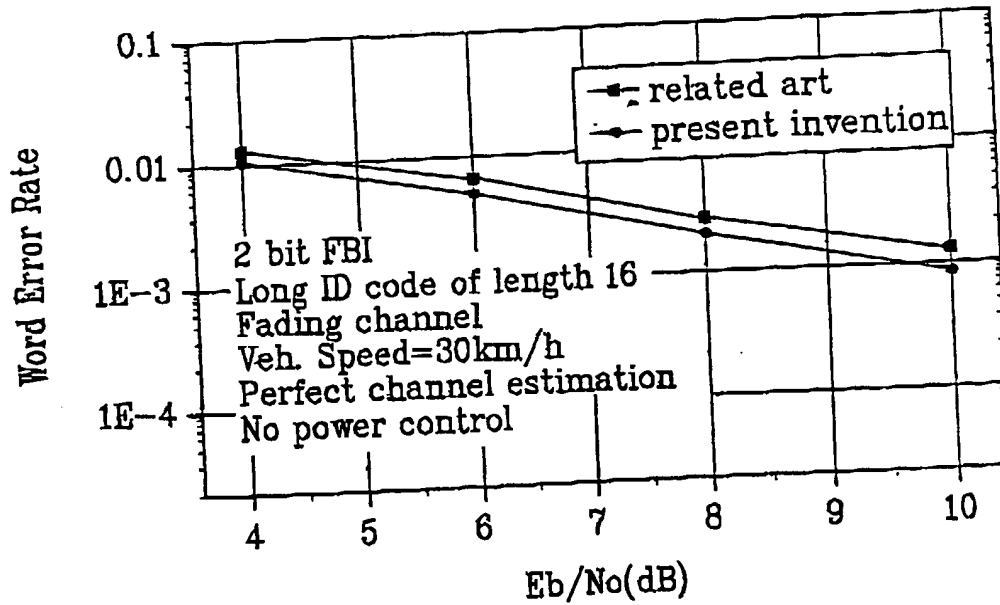


FIG. 7B

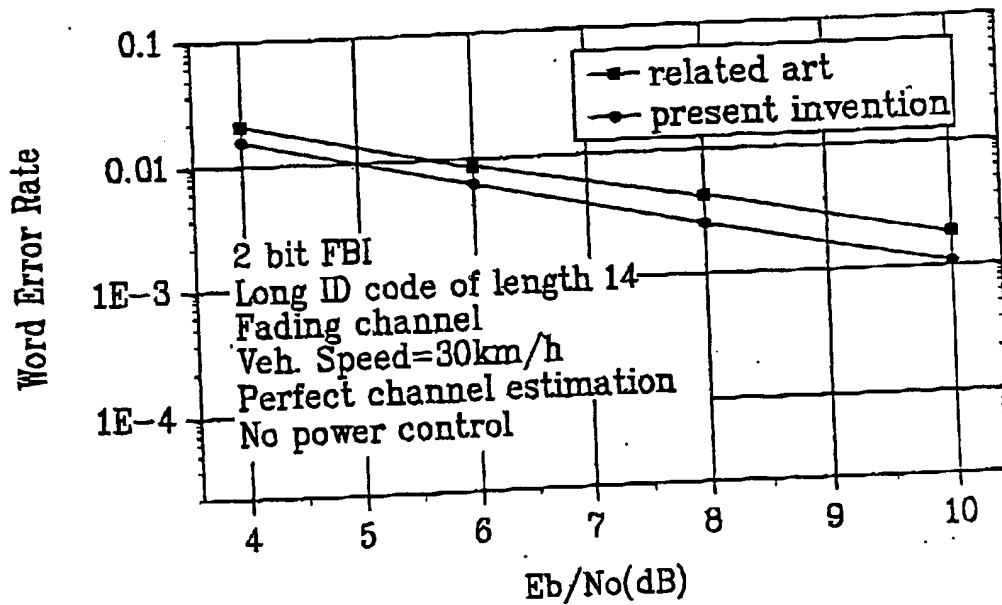


FIG. 7C

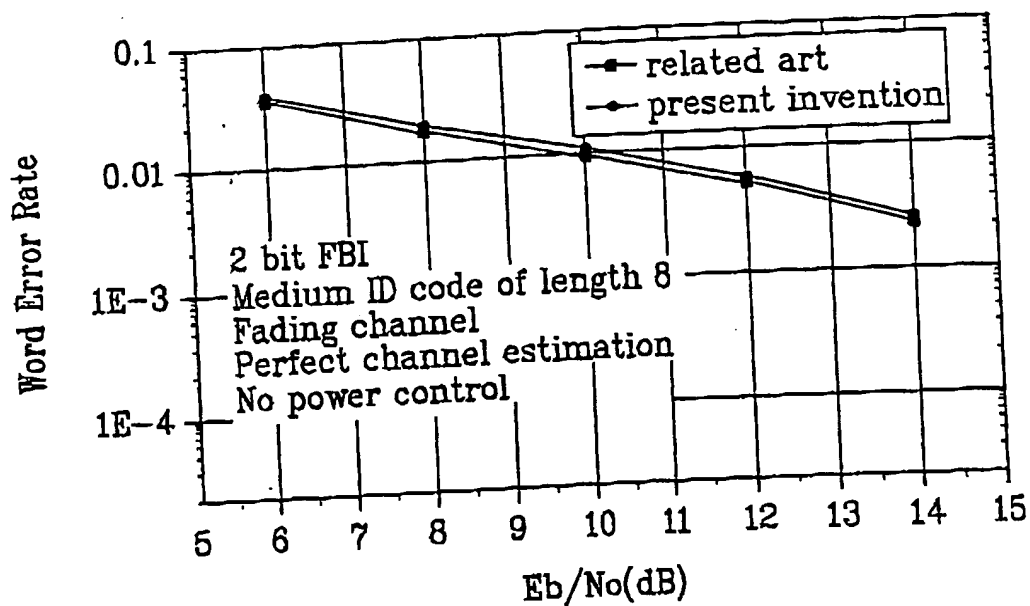


FIG. 7D

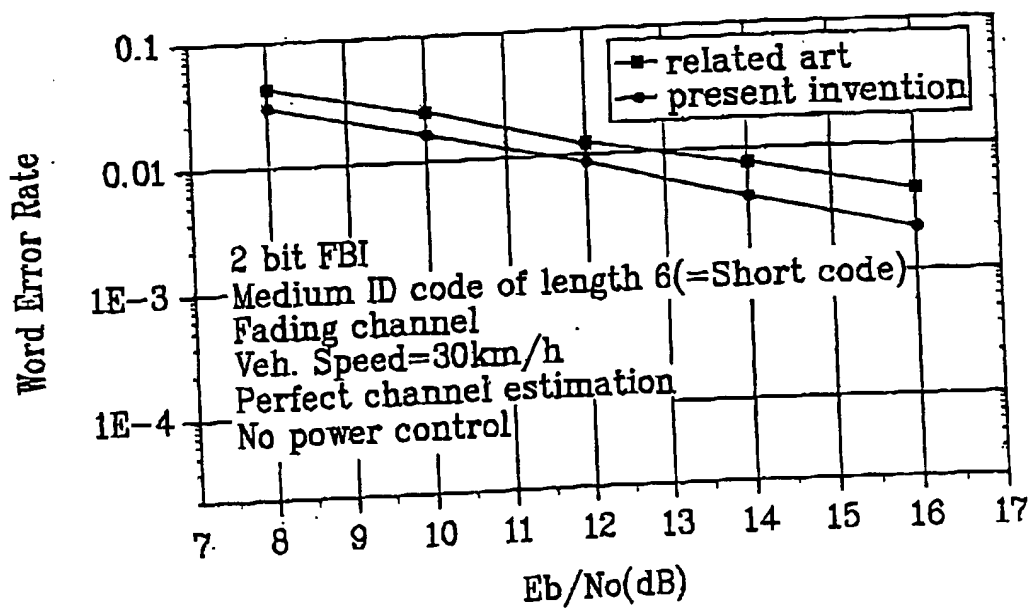


FIG. 8A

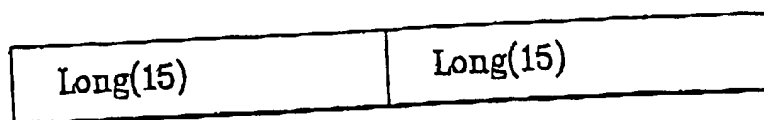


FIG. 8B

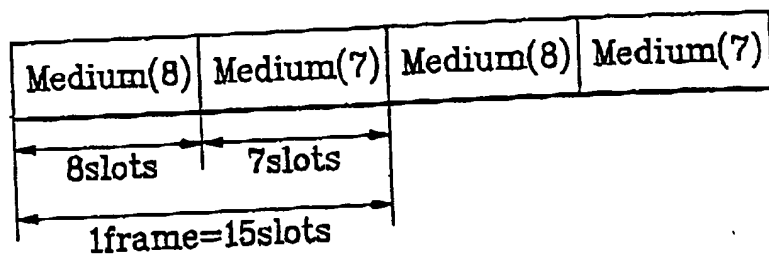


FIG. 8C

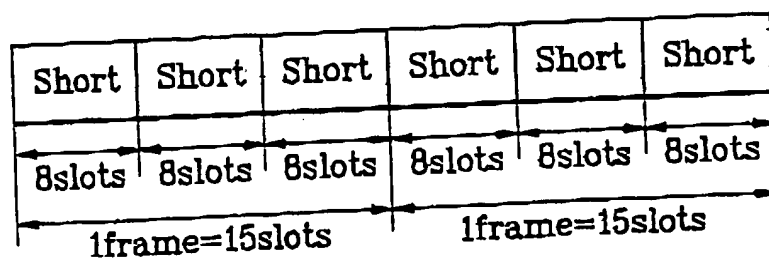


FIG. 9A

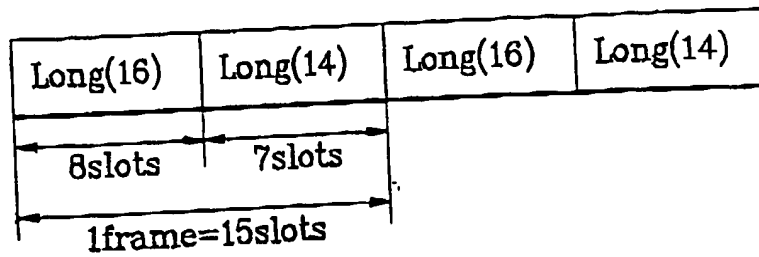


FIG. 9B

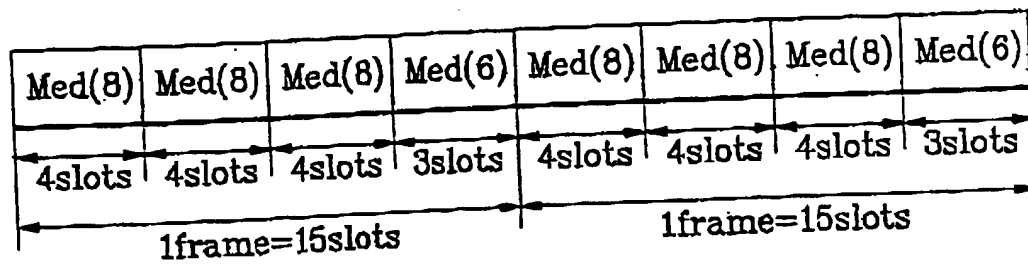


FIG. 9C

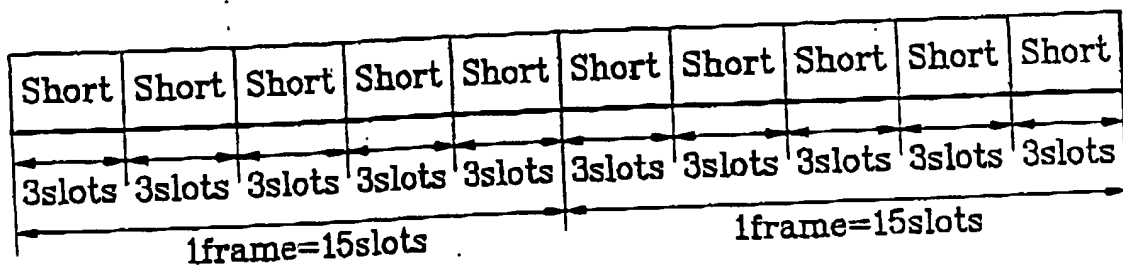


FIG.10A

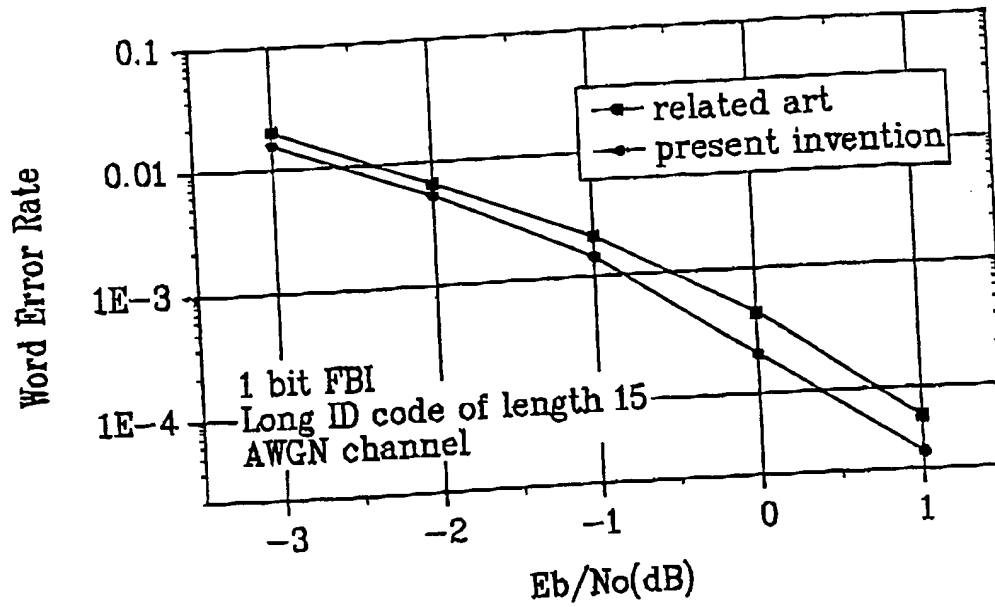


FIG.10B

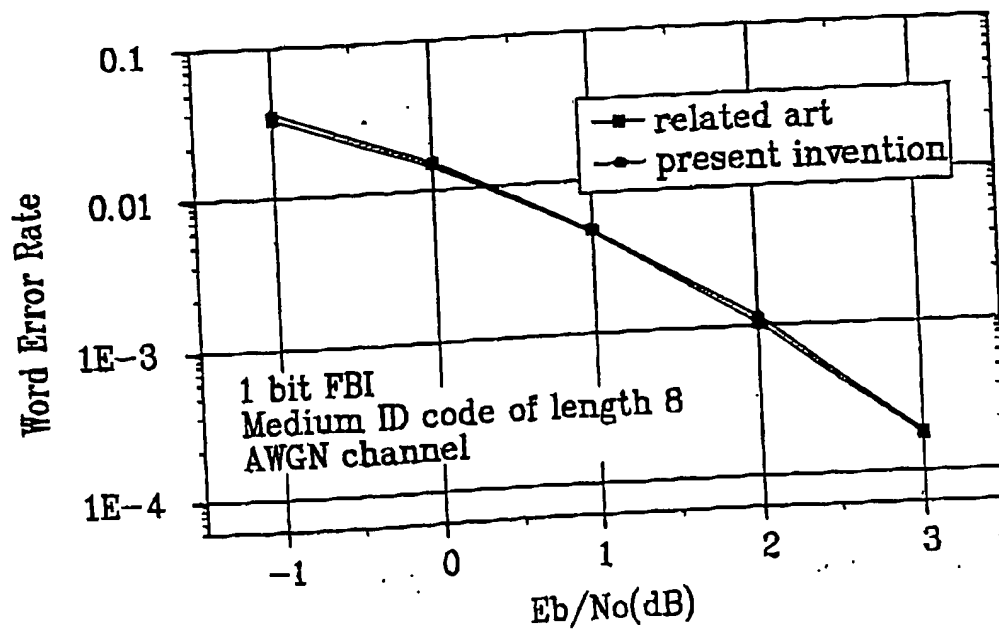


FIG.10C

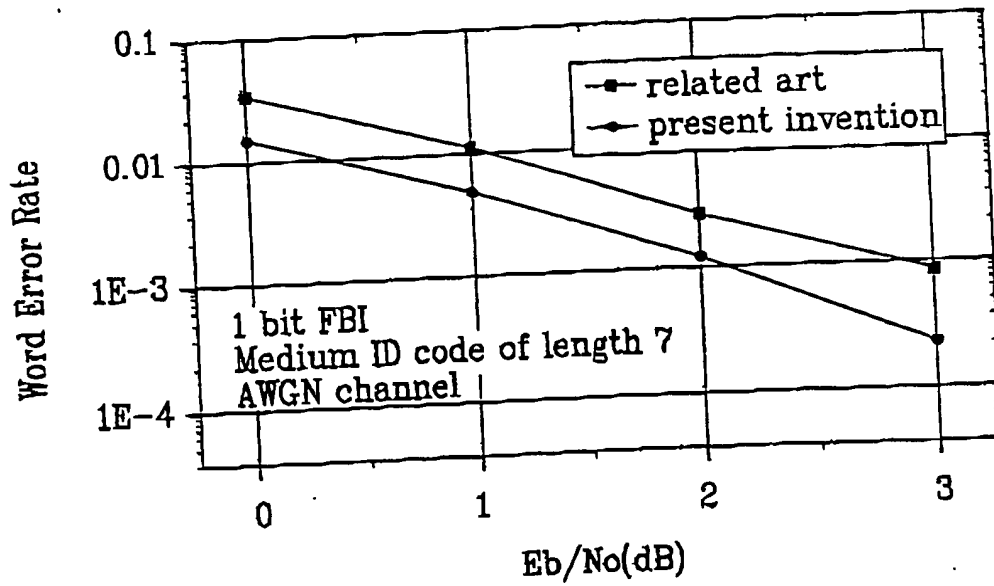


FIG.10D

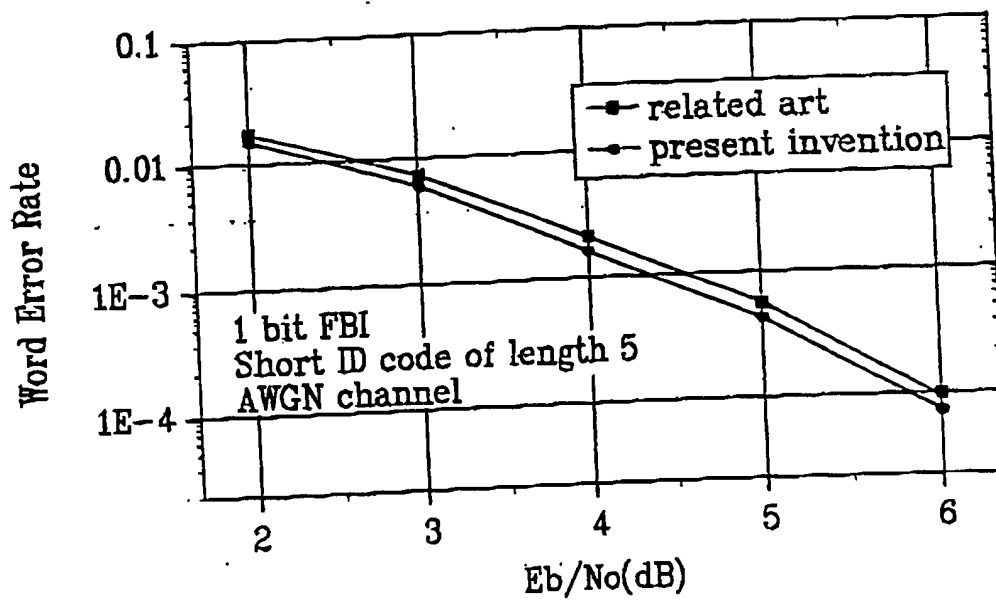


FIG.11A

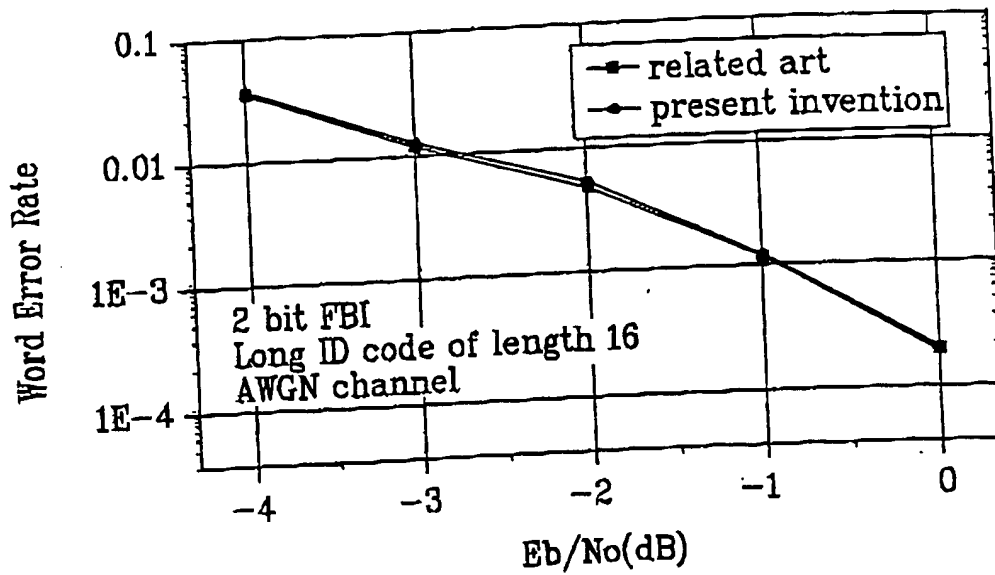


FIG.11B

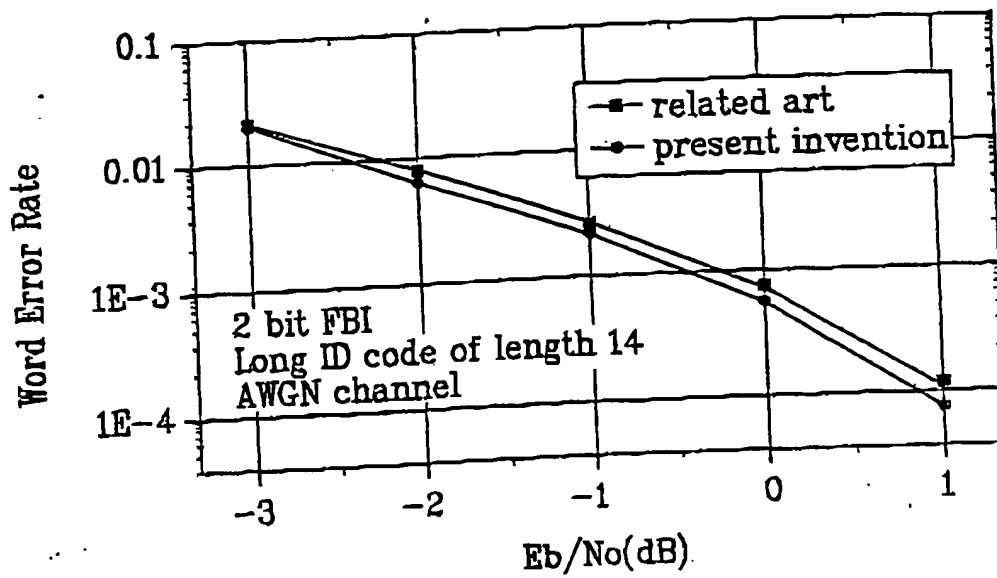




FIG.11C

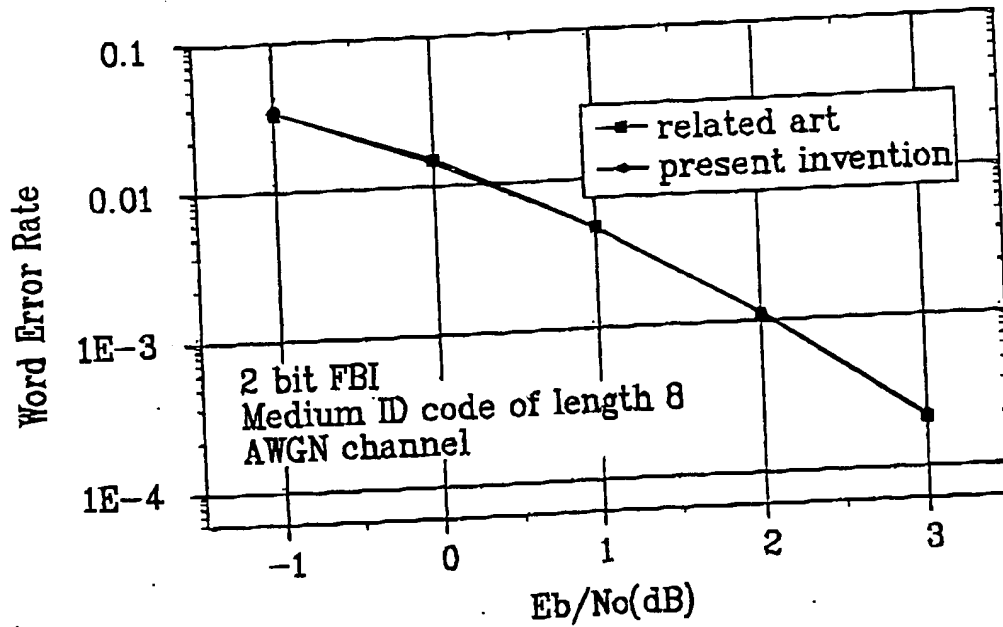


FIG.11D

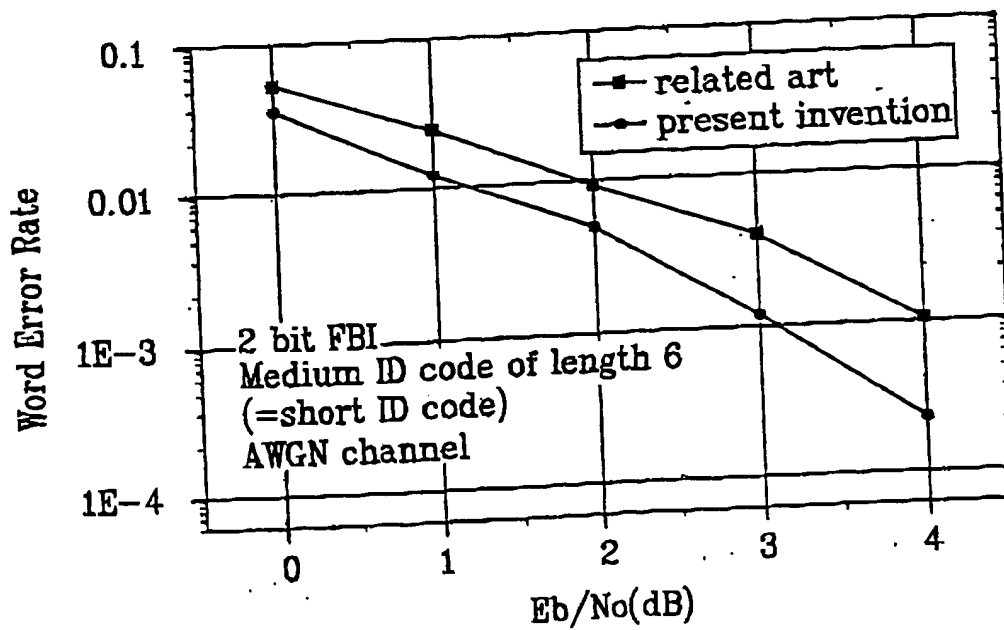


FIG.12A

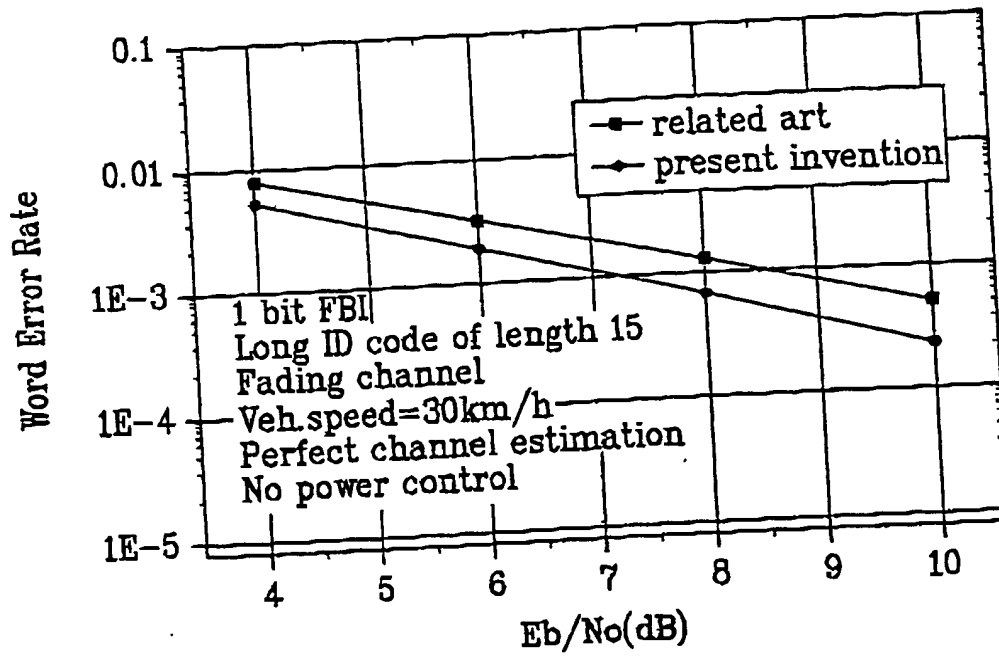


FIG.12B

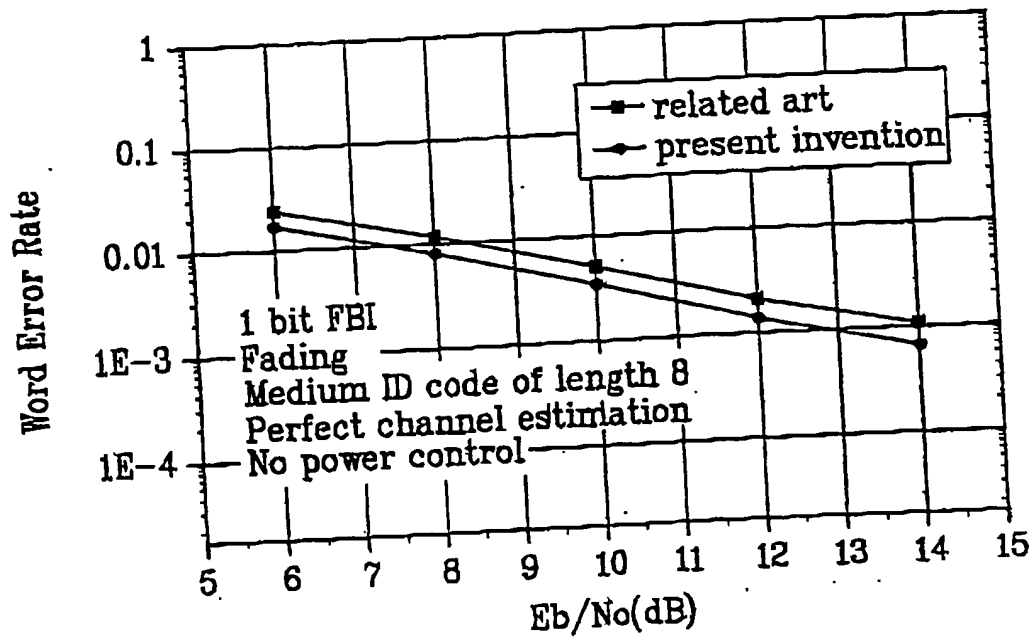


FIG.12C

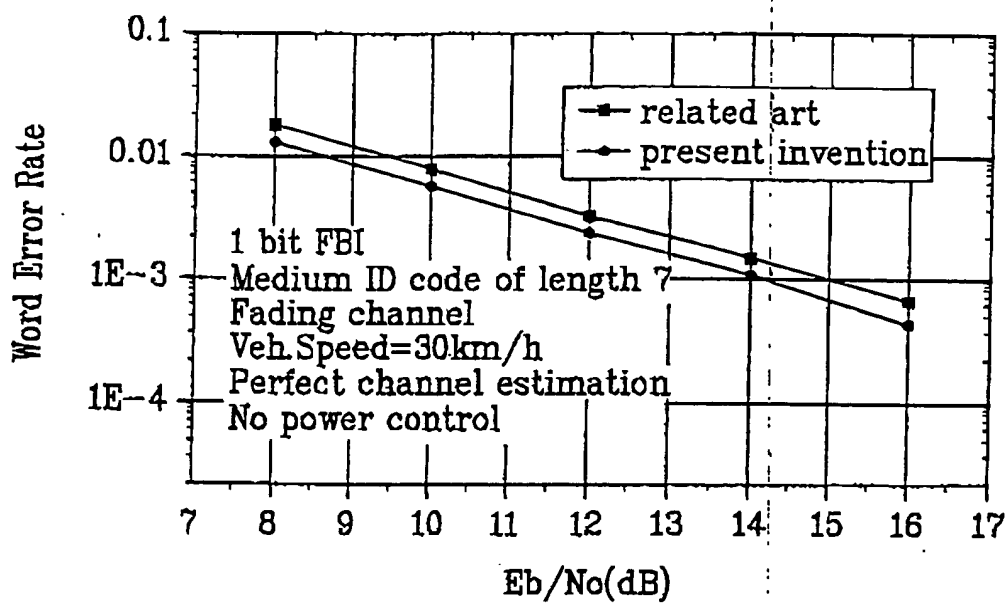


FIG.12D

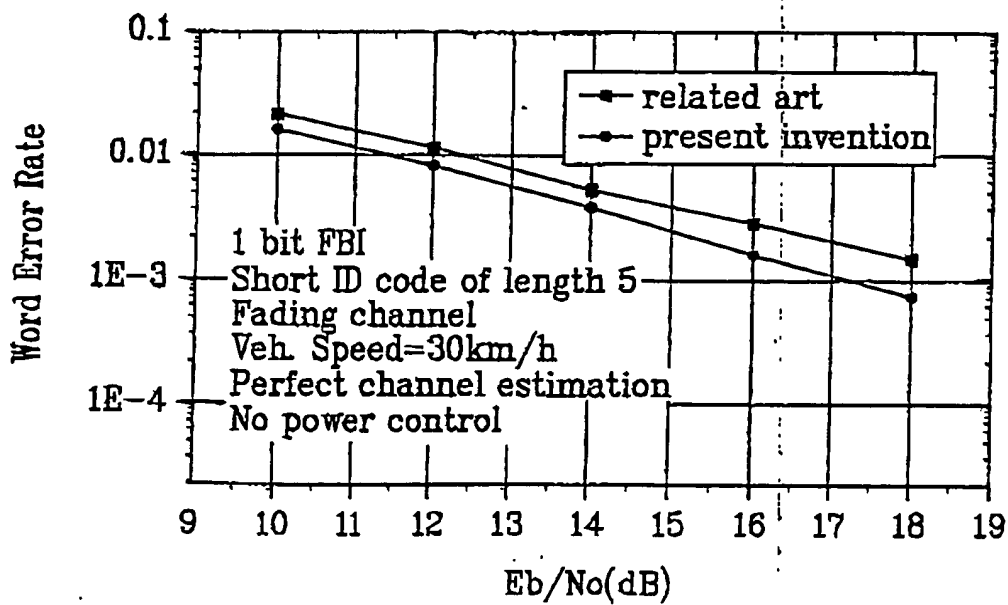


FIG.13A

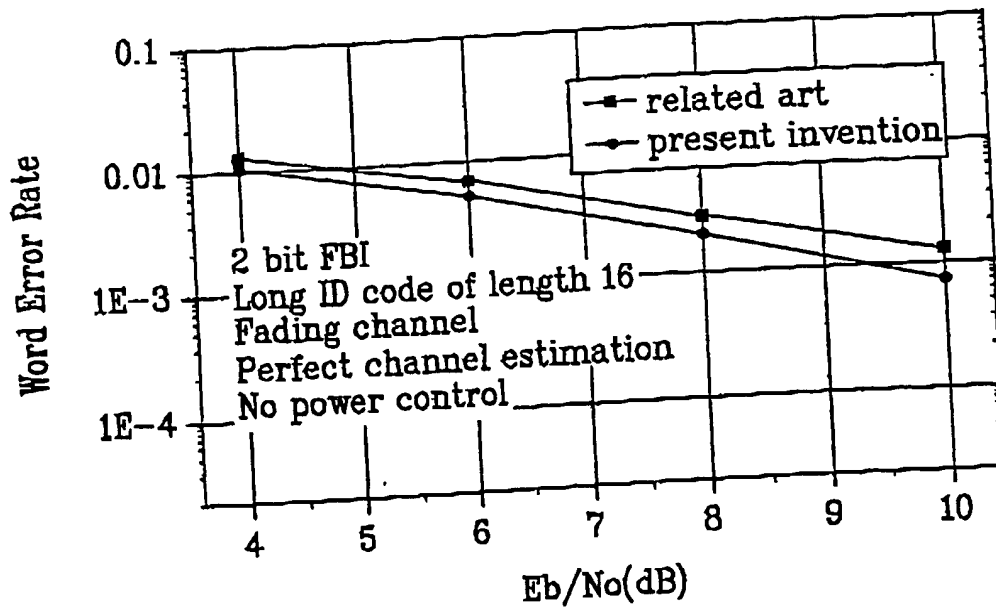


FIG.13B

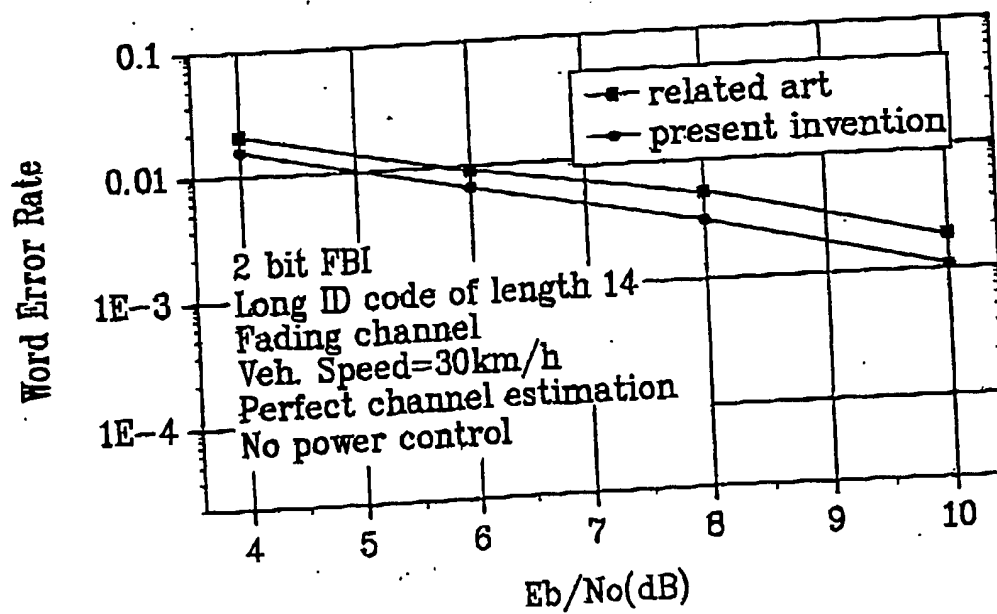


FIG.13C

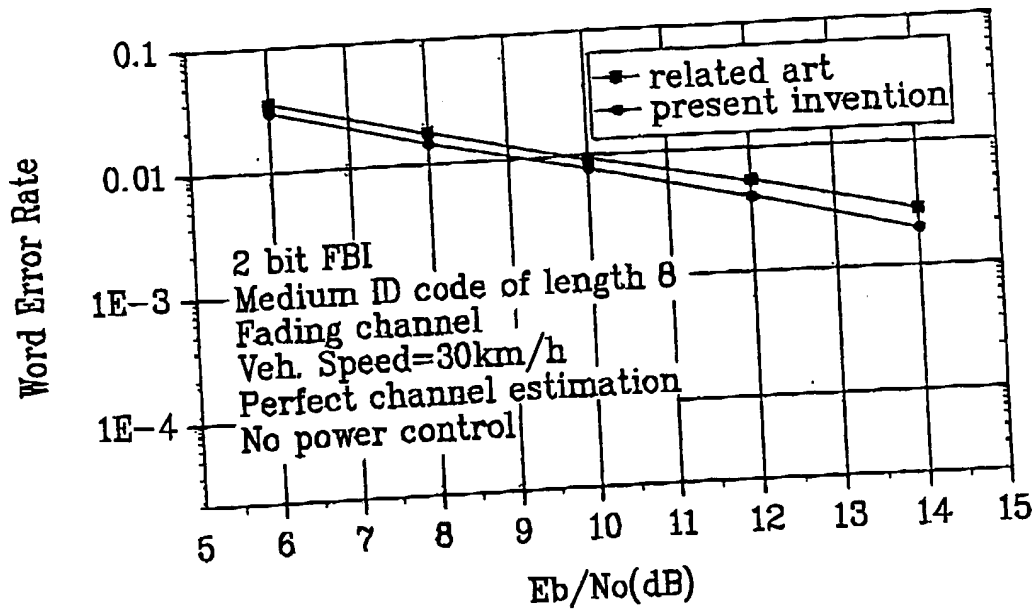


FIG.13D

